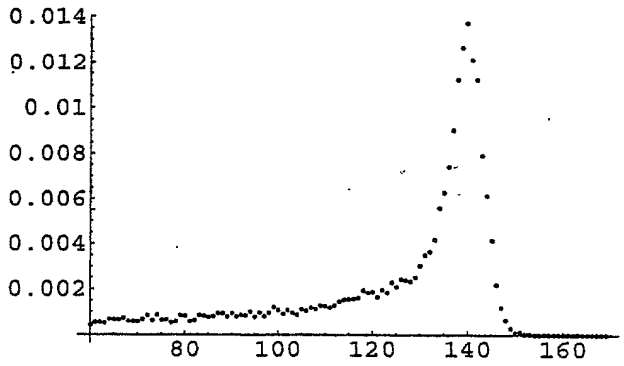

Figure 1. Typical CZT Pixel Response to 140 keV Gamma rays

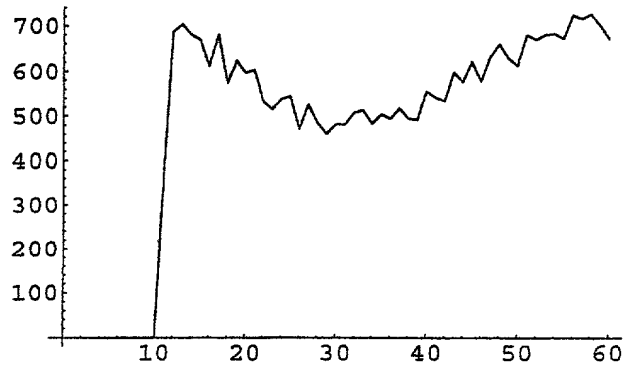

Figure 2. Spectrum of Single Compton Scattered Gammas from 140 keV Source – Energy Range 80–140 keV

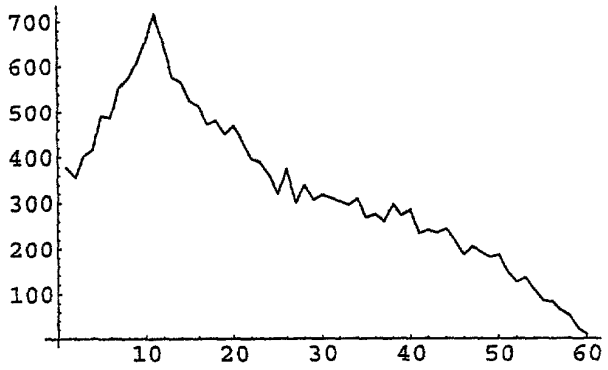

Figure 3. Spectrum of Twice Compton Scattered Gammas from 140 keV Source – Energy Range 80–140 keV

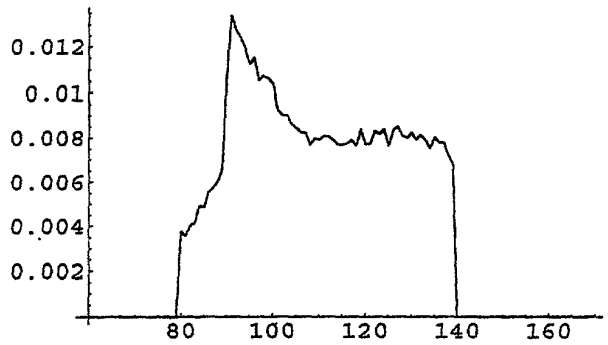

Figure 4. Sum Scatter Spectrum from 140 keV Source – Energy Range 80–140 keV, Integral Normalized to 0.78

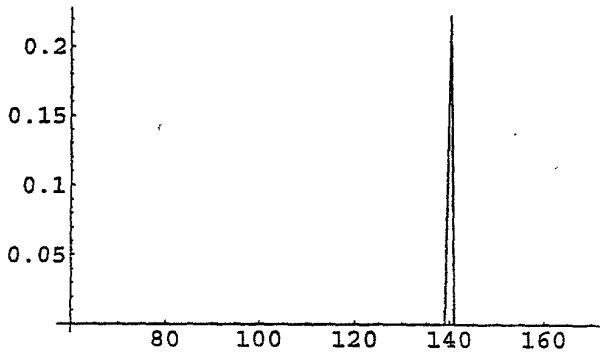

Figure 5. Monoenergetic 140 keV Source Spectrum – Integral Normalized to 0.22

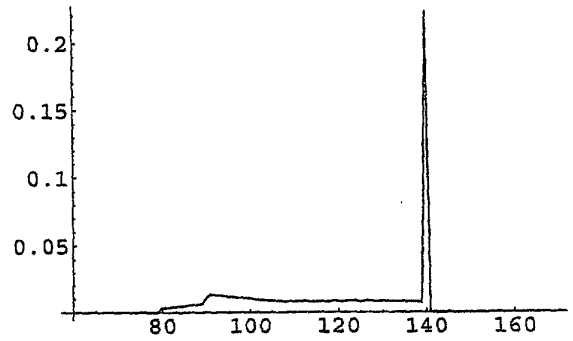

Figure 6. Total Spectrum of Gammas Emanating from a 10 cm Diameter Water Sphere– Energy Range 80–140 keV, Integral Normalized to 1.0

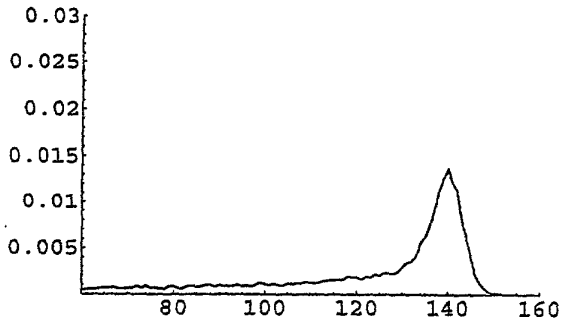

Figure 7. Unscattered Gamma Spectrum in CZT Integral Arbitrarily Normalized to 30%

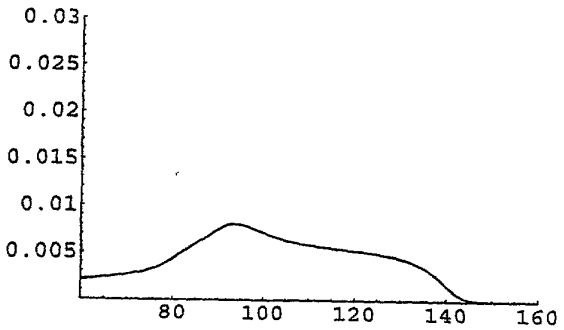

Figure 8. Scattered Gamma Spectrum in CZT Integral Arbitrarily Normalized to 70%

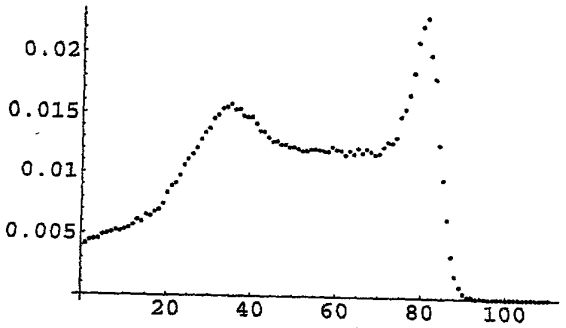

Figure 9. Composite Spectrum in CZT

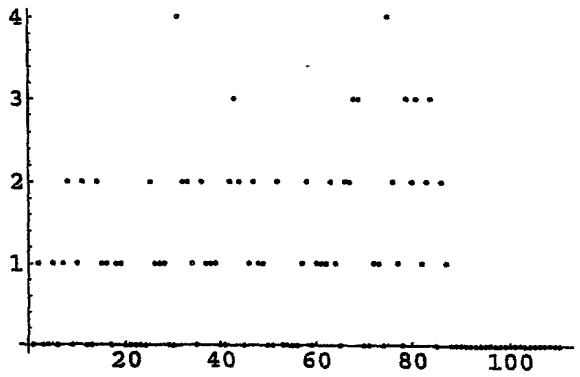

Figure 10. A Randomly Generated Spectrum of 100 Counts.

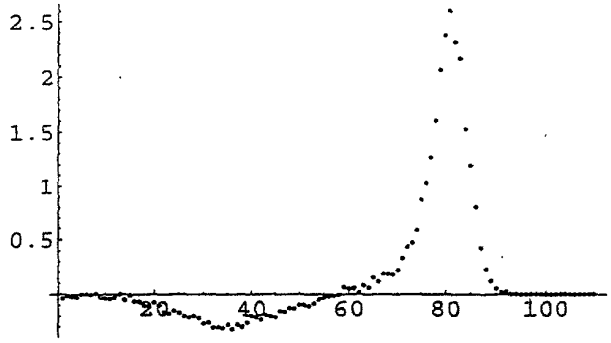

Figure 11. Plot of the Vector Corresponding to the Weights of the Unscattered Component

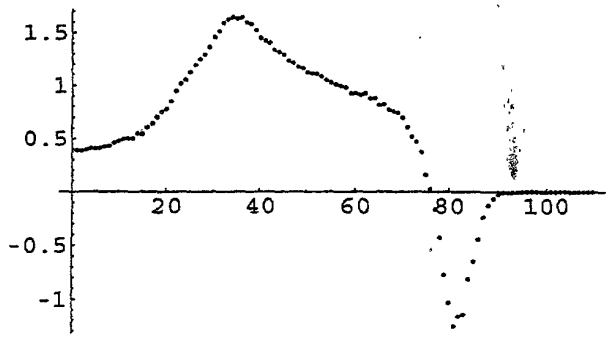

Figure 12. Plot of the Vector Corresponding to the Weights of the Scattered Component

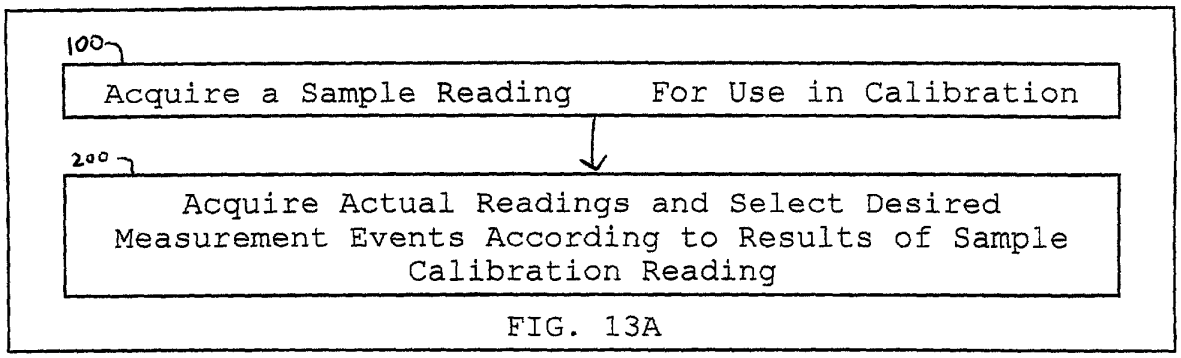

FIG. 13A

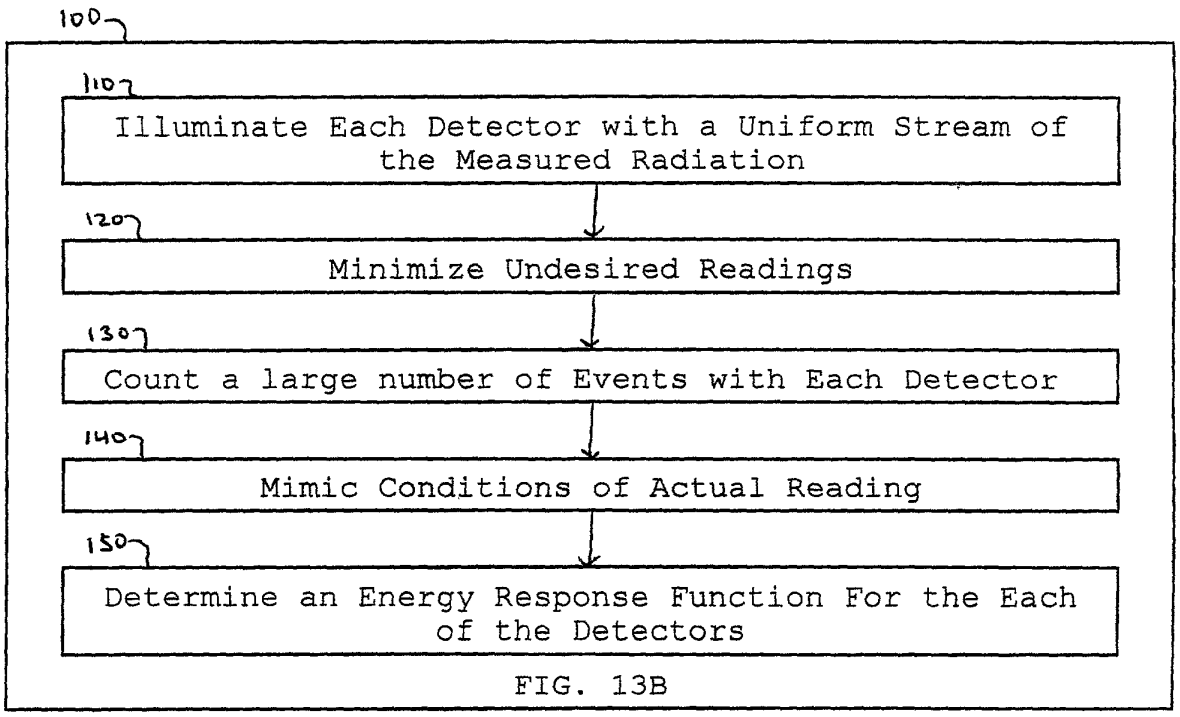

FIG. 13B

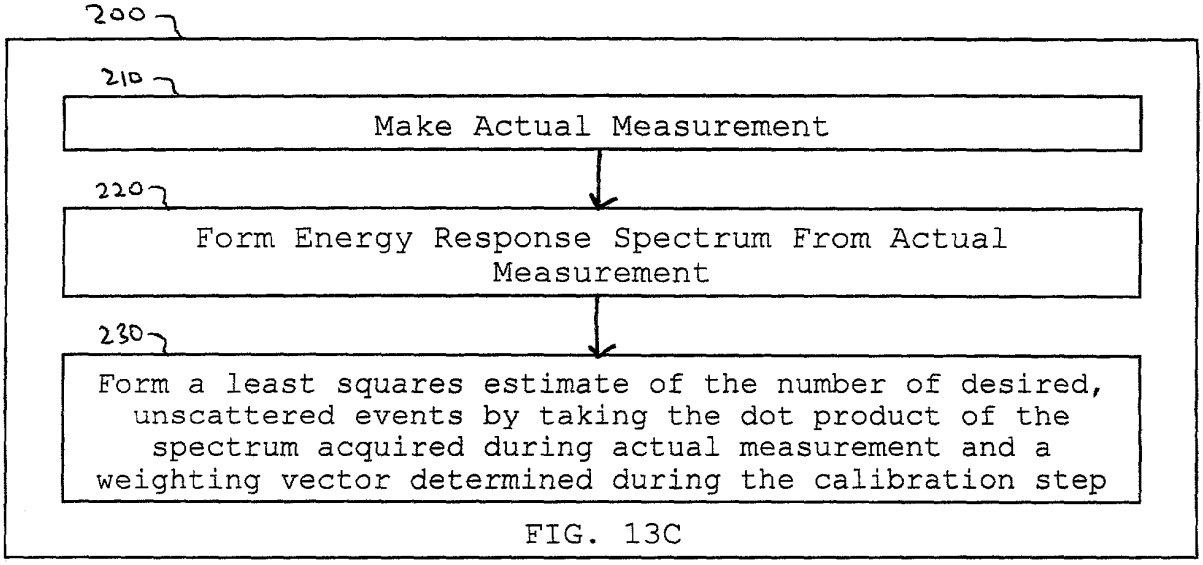
200
210
Make Actual Measurement
220
Form Energy Response Spectrum From Actual Measurement
230
Form a least squares estimate of the number of desired, unscattered events by taking the dot product of the spectrum acquired during actual measurement and a weighting vector determined during the calibration step

FIG. 13C